

1 The opinion in support of the decision being entered today was *not* written
2 for publication and is *not* binding precedent of the Board
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4 UNITED STATES PATENT AND TRADEMARK OFFICE

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6

7 BEFORE THE BOARD OF PATENT APPEALS
8 AND INTERFERENCES

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11 *Ex parte* KARE CHRISTIANSEN and HUGIN HANSEN

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14 Appeal 2006-3215
15 Application 09/097,383
16 Technology Center 3700

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19 Decided: September 13, 2007

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22 *Before:* MURRIEL E. CRAWFORD, JENNIFER D. BAHR, and JOSEPH
23 A. FISCHETTI, *Administrative Patent Judges.*

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25 CRAWFORD, *Administrative Patent Judge.*

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28 DECISION ON APPEAL

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30 STATEMENT OF CASE

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32 Appellants appeal under 35 U.S.C. § 134 (2002) from a final rejection
of claims 1-3, 8, 10-15, 18, and 23-25. We have jurisdiction under 35
U.S.C. § 6(b) (2002).

33

34 Appellants invented an apparatus for pulsed light for treatment of a
human or animal body (Specification 1).

35

36 Claim 1 under appeal reads as follows:

1 1. Apparatus for pulsed light cosmetic or therapeutic photo-
2 treatment of the human or animal body, comprising a housing, a gas
3 filled arc lamp light source within said housing operable to produce a
4 pulsed light output, a power supply connected to said arc lamp light
5 source for operation thereof to produce a light output duration of from
6 10 to 70 msec, a light output aperture defined by said housing, and a
7 filter system for filtering undesired light output wavelengths from said
8 pulse to produce a filtered light pulse for application to said body, at
9 least part of said filter system being interposed between said light
10 source and said aperture, wherein said filter system consists of (a) a
11 filter for filtering out UV and near UV wavelengths shorter than 510
12 nm and for passing longer wavelengths and (b) water, said water
13 being located in the apparatus for filtering out undesired skin heating
14 wavelengths of light which would otherwise pass to said output
15 aperture, wherein said filtered light pulse has an energy of at least 250
16 J/cm²/sec.

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18 The Examiner rejected claim 15 under 35 U.S.C. § 112, paragraph one
19 as failing to comply with the written description requirement because the
20 Specification does not disclose what form the “means for adjusting the time
21 weighted average light power output” would take.

22 The Examiner rejected claim 1 under 35 U.S.C. § 102(b) as being
23 anticipated by Eckhouse.

24 The Examiner rejected claims 1-3, 8, and 23 under 35 U.S.C. § 103(a)
25 as being unpatentable over Eckhouse in view of Gustafsson.

26 The Examiner contends that it would have been obvious to include a
27 water coolant, as taught by Gustafsson, in the device of the first embodiment
28 of Eckhouse in order to make the device more effective.

29 The Examiner rejected claims 10-15, 24 and 25 under 35 U.S.C. § 103
30 as being unpatentable over Eckhouse in view of Gustafsson, Anderson and
31 Optoelectronics.

1 The prior art relied upon by the Examiner in rejecting the claims on
2 appeal is:

3 Vassiliadis US 3,703,176 Nov. 21, 1972
4 Gustafsson US 5,320,618 Jun. 14, 1994
5 Eckhouse US 5,620,478 Apr. 15, 1997
6 Anderson US 5,735,844 Jul. 28, 1998
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8 PerkinElmer Optoelectronics, *High Performance Flash and Arc*
9 *Lamps* (1995).

10 Schott, Data Sheet for OG 550 Filter (June 1997).
11

12 Appellants contend that a person of ordinary skill in the art would
13 understand from a reading of the Specification that the PC is the means for
14 adjusting the time weighted average light power output.
15

16 Appellants further contend that Eckhouse teaches that it is not
17 desirable to use a water coolant in connection with the first embodiment.
18

19 ISSUES

20 Whether Appellants have shown that the Examiner erred in holding
21 that the Specification is silent on the form which the means for adjusting the
22 time weighted average light power output would take.

23 Whether Appellants have shown that the Examiner erred in holding
24 that Eckhouse discloses the invention as claimed.

25 Whether Appellants have shown that the Examiner erred in holding
26 that it would have been obvious to include water located in the device of
27 Eckhouse's first embodiment.

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FINDINGS OF FACT

2 Appellants' Specification discloses an apparatus for pulsed light for
3 treatment of a human or animal body. The apparatus, as depicted in Figure
4 2, includes a light source 13 within a housing 20. The light from the light
5 source 13 is directed through the infra red filter comprised of circulating
6 water 24 and a long wave pass filter 25 (Specification 19-20; Figure 2).

7 The circuit for driving the apparatus is depicted in Figure 1 and
8 includes a PC 10 in communication with a power supply 12 and an IGBT
9 switch. The power supply 12 charges a capacitor C to a voltage set by the
10 PC and thereby powers the light source 13 (Specification 18). The IGBT
11 switch is also controlled by the PC and is capable of changing from non-
12 conductive to conductive states thereby controlling the current sent to the
13 light source. The light power output of the light source 13 is dependent on
14 the electrical power input to the lamp (Specification 6). As the PC controls
15 the conductivity and nonconductivity of the IGBT switch and the voltage of
16 the capacitor C, the PC controls the power input to the lamp, and thereby the
17 time weighted average light output.

18 Eckhouse discloses, in a first embodiment, a device 10 for therapeutic
19 treatment of a human or animal body (Eckhouse, col. 1, ll. 16-28). As
20 depicted in Figures 1 and 2, the device 10 includes a light source 14 in a
21 glass tube 15 and a housing 12. The light from the light source 14 passes
22 through an optical filter 18 and then through an iris 20. The optical filter 18
23 may be moved in and out of the light path to control the spectrum and
24 intensity of the light (Eckhouse, col. 5, ll. 44- 47). The device 10 can be a
25 hand held device which is lightweight and disposed to be held by a physician

1 using handle 13 (Eckhouse, col. 8, ll. 44-49). Eckhouse does not disclose
2 the use of fluid in this embodiment for cooling or for any other purpose or
3 the use of high repetition rate pulses.

4 Appellants allege that high repetition rates are not used in skin
5 treatments of the type for which the embodiment of Figures 1 and 2 of
6 Eckhouse are used (Appeal Br. 17) and the Examiner does not dispute this
7 allegation.

8 Eckhouse discloses, in a second embodiment, which is depicted in
9 Figures 4 and 8 to 10, a coupler 40. Coupler 40 includes a light source 42
10 which produces light which is coupled to an optical fiber 46 (Eckhouse, col.
11 8, ll. 58-63). The light source and optical fiber are disposed within a
12 reflector 44. The light source produces high intensity incoherent and pulsed
13 light (Eckhouse, col. 8, ll. 64-68). The device may be used with a fluid
14 filling the volume between the light source and the optical fiber 46
15 (Eckhouse, col. 10, ll. 4-6). The fluid may be water which is disclosed as
16 being very effective for cooling the light source if high repetition rate pulses
17 are used. Eckhouse also teaches that the presence of the fluid reduces the
18 losses that are associated with glass to air transitions such as the transition
19 between the light source envelope material and air (Eckhouse, col. 10, ll. 7-
20 11).

21 Eckhouse does not disclose a housing both containing the lamp light
22 source and defining a light output aperture, as called for in claim 1. While
23 Eckhouse discloses that the device of the embodiment of Figures 4 and 8-10
24 is similar to that of Figures 1 and 2 (col. 8, ll. 58-60), Eckhouse does not
25 specify what is meant by "similar" or, stated differently, which features of

1 the embodiment of Figs. 1 and 2 are incorporated into the embodiment of
2 Figs. 4 and 8-10.

3 Gustafsson discloses a device for treatment of skin. As depicted in
4 Figure 1, a base model includes a light source 2 is connected to a lens 3 and
5 light is directed through the lens 3 and a fiber optical cable 4 to a second
6 lens 5. In the preferred embodiment, the device includes light sources 2
7 covered by pipe shaped covers 21 which are connected to one another
8 serially through leads 22 (Gustafsson, Figures 1 and 3). A cooling system is
9 included which consists of a pump 84, conduit 82 and outlet 83. The
10 cooling system circulates deionized water in a direction square to pipes
11 which carry the light from the light source 2 (Gustafsson, col. 3, ll. 22-24).
12 Gustafsson discloses that “this arrangement functions thus in principle as the
13 earlier described base model but is due to its construction much more
14 effective” (Gustafsson, col. 3, ll. 4- 6).

DISCUSSION

16 We will not sustain the Examiner’s rejection of claim 15 under 35
17 U.S.C. § 112, first paragraph because we agree with the Appellants that the
18 Specification is clear that the means for adjusting the time-weighted average
19 time light power output is the PC. The PC controls the conductivity of the
20 IGBT switch which in turns controls the capacitor voltage applied to the
21 light source and therefore the time-weighted average light output period.

22 We will also not sustain the Examiner’s rejection of claim 1 under 35
23 U.S.C. § 102(b). Eckhouse discloses the subject matter of claim 1 in its
24 embodiment depicted in Figure 1 except for the water filter and discloses a
25 water filter in an alternative embodiment depicted in Figure 4. It is well

1 settled that alternate embodiments of the same reference cannot be combined
2 to support an anticipation rejection under 35 U.S.C. § 102(b). *In re Arkley*,
3 455 F.2d 586, 587-88, 172 USPQ 524, 526 (CCPA 1972).

4 The embodiment depicted in Figure 1 of Eckhouse does not anticipate
5 the subject matter of claim 1, from which all claims depend, because there is
6 no water which filters undesired wavelengths.

7 While the embodiment depicted in Figure 4 includes water that may
8 function as a filter, this embodiment is not clearly disclosed as including a
9 housing and a light aperture defined by the housing as is required by claim 1.

10 In rejecting claims 1-3, 8 and 23 as being unpatentable under 35
11 U.S.C. § 103 over Eckhouse in view of Gustafsson, the Examiner found that
12 a person of ordinary skill in the art would have been motivated to use
13 cooling water, as disclosed in Gustafsson. We will not sustain the rejection
14 because the Examiner's application of Gustafsson does not make up for the
15 deficiency of the embodiment of Figure 4 discussed above and because
16 Eckhouse does not disclose, in regard to its first (Figure 1) embodiment, that
17 cooling is needed. In fact, as Eckhouse discloses cooling water in
18 connection with the alternative embodiment depicted in Figure 4 only, the
19 lack of disclosure of cooling water in connection with the embodiment
20 depicted in Figure 1 would appear to indicate that no cooling is necessary in
21 regard to the embodiment depicted in Figure 1.

22 In particular, in regard to the embodiment depicted in Figure 4,
23 Eckhouse mentions cooling water only in the context of the use of high
24 repetition pulses. Eckhouse does not disclose that high repetition pulses are
25 used in connection with the embodiment of Figure 1 and, in fact, the

1 Examiner does not dispute Appellants' allegation (Appeal Br. 17) that high
2 repetition rates are not used in the skin treatments for which the first
3 embodiment of Eckhouse is intended. Accordingly, Eckhouse gives no
4 indication that the embodiment of Figure 1 needs cooling water.

5 We are also not persuaded by the Examiner's reason for modifying
6 the Eckhouse device so as to include cooling water in view of the teachings
7 of Gustafsson. In our opinion, the language in Gustafsson regarding a more
8 effective device relates to the entire construction of the embodiment
9 depicted in Figures 2 and 3 and not solely to the inclusion of cooling water.

10 Appellants have shown that the Examiner erred in determining that it
11 would have been obvious to modify the device of Eckhouse's Figure 1 so as
12 to include cooling water. Therefore, we will not sustain this rejection.

13 We likewise will not sustain the rejection of claims 10-15, 24 and 25
14 under 35 U.S.C. § 103 as being unpatentable over Eckhouse in view of
15 Gustafsson, Anderson, and Optoelectronics because this rejection relies on
16 the combination of Eckhouse and Gustafsson for rendering obvious the
17 subject matter of claim 1 from which claims 10-15, 24 and 25 depend and
18 neither Anderson or Optoelectronics remedies the deficiencies noted above
19 for the combination of Eckhouse and Gustafsson.

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DECISION

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The Examiner's rejection of claims 1-3, 8, 10-15, 18, and 23-25 is reversed.

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REVERSED

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